

## REMARKS

Reconsideration of the above-mentioned reissue patent application is hereby requested in view of the above amendments, additional claims, and remarks which follow.

The Examiner rejected claims 1-37 under 35 U.S.C. §251 as relying upon a defective Reissue Oath or Declaration. Applicants believe that the Reissue Declaration which was originally submitted by Applicants is adequate and meets each and every element for Reissue Declarations under 37 C.F.R. §1.175. The Examiner indicated that the reason "that applicant believes the original patent to be wholly or partly inoperative or invalid by reason of claiming less than he has a right to claim seem broad and not directed to each specific claims." (sic) The Examiner also indicated that "applicant should be more comprehensive as to how each newly submitted claims (sic) 19-37 address a given error of the original patent." Applicants believe that there is no requirement for Applicants to show how each submitted claim addresses a given error of the original patent (37 C.F.R. §1.175; M.P.E.P. §1414; and M.P.E.P. §1444).

Rather, Applicants believe that they need only show at least one error which is relied upon to support the reissue application. 37 C.F.R. §1.175(a)(1). Applicants further believe that this error has been identified in the original Declaration. On page 1 of Applicants' Original Reissue Declaration, Applicants indicated that "the claims contain excess limitations not necessary for patentability. For example, at least one error in the prior patent is that the claims contain excess limitations concerning wiping surfaces on the housing not necessary for distinguishing over the prior art." Thus, as each of the independent claims contains the "wiping surfaces" limitation, (see line 3 of each of Claims 1,

8, 9 and 16), this is the "at least one error" relied upon for reissue. With this error identified, Applicants believe that there is no requirement to provide a showing as to how each newly submitted claim addresses that given error. As a result, Applicants believe that the Reissue Declaration meets all of the requirements under 37 CFR §1.175, and therefore, the Examiner is requested to withdraw the rejection.

The Examiner rejected Claims 19-22 and 30-37 under 35 U.S.C. §102(b) as being anticipated by Chau et al. (U.S. Patent 5,190,480). Applicants respectfully disagree with the Examiner's holding of claims 19-22 and 30-37 as being unpatentable under 35 U.S.C. §102(b), as anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration. Alco Standard Corp v. TVA, 1 USPQ 2d 1337 at 1341 (Fed. Cir. 1986).

Chau et al. shows a printed circuit board connector having a housing with a printed circuit board slot at 46. Chau et al. shows both signal 50, 52 and power 58, 58a contacts positioned on opposite sides of the slot 46. The signal and power contacts are discrete contacts, that is, each contact on one side of the slot 46 is discrete from its opposed contact in the same position on the opposite side of the slot. In this way, each of the contacts, particularly the power contacts, contact separate pads on opposite sides of the printed circuit board, but are not interconnected to each other. For this reason, Claims 19 and 30 are not anticipated by Chau et al. under 35 U.S.C. §102(b).

Claim 19 recites that each power contact has a body portion and contact fingers extending therefrom in an opposed relationship. Chau et al. does not disclose opposed contact fingers that project from a body portion of the contact. Furthermore in Claim 19, the mating power contacts receive the contact fingers of the power contacts therein, and the contact

fingers are deflected inwardly upon mating. Chau et al. does not show such a structure, and in fact, Chau et al. shows a printed circuit board receivable between edge style contacts 58, 58a where the outer contacts (not the inner contacts) are deflected upon insertion of the printed circuit board.

Claim 30 recites that the power contacts have opposed contact fingers extending from a body portion which are inwardly deflectable upon mating with a mating power contact of a mating electrical connector. As mentioned above, Chau et al. does not show opposed contact fingers extending from a body portion where the opposed contact fingers are inwardly deflectable upon mating with a mating power contact. Rather, in Chau et al., printed circuit board edge style contacts are shown which are outwardly deflectable upon mating with a printed circuit board.

The Examiner also rejected Claims 19-37 under 35 U.S.C. §103(a) under a combination of four references, Ammon (U.S. Patent 3,868,162); Henschen et al. (U.S. Patent 3,663,930) in view of Chau et al. and Martens (U.S. Patent 4,582, 386).

Ammon (U.S. Patent 3,868,162) discloses receptacle and plug connectors including a plurality of contact elements to interconnect circuits on printed circuit boards. The two electrical connectors provide an interconnection as shown in Figure 2 to interconnect printed circuit boards 13 and 14.

Henschen et al. (U.S. Patent 3,663,930) shows disengageable connectors where one connector part has a channel shaped female pin 4 which projects out of its associated housing beyond end face 91 (see Figure 4a) to interconnect with a mating contact 2. This contact 2 includes springs 16, 18 positioned between side walls 22 and a forward web 12.

Martens (U.S. Patent 4,582,386) shows a connector with one or more contacts, where some contacts are enlarged to handle larger currents. The male power contacts 41 are tab style contacts of a single thickness of material, as shown in Figures 5a, 5b.

Applicants should first note that they have amended Claim 27 such that it includes the limitations that the first electrical connector includes at least one first power contact and at least one signal contact, the second electrical connector has at least one second power contact which is mateable with at least one first power contact, and the second electrical connector has at least one second signal contact mateable with the first signal contact of the first electrical connector. Further, claim 27 includes the limitation that at least one first power contact has a body portion with opposed contact fingers extending therefrom. Thus, Applicants refer to the amended claim 27 when discussing the obviousness rejection below.

For numerous reasons, Applicants respectfully disagree with the Examiner's rejection of claims 19-34 (Claims 35-37 are cancelled) under 35 U.S.C. §103(a).

Firstly, Applicants question the viability of the Ammon and Henschen et al. contacts for use with power. The Examiner indicated that both Ammon and Henschen et al. show first and second electrical connectors having first and second power contacts. Applicants can find no support for the contention that these patents show contacts that are used for power, and the discussion within the patents themselves would suggest otherwise.

Ammon indicates that it is useful generally in the art of interconnecting back panels (see column 1, line 11-12); moreover this connector is shown as a subminiature-D connector, as shown in Figures 5 and 8. Such connectors are

normally used for telephone signals or for peripheral type interconnections in computer applications.

Henschen et al. on the other hand discusses printed daughter board connectors that are spaced apart by a distance of 0.050 inches (column 1, line 10). Furthermore, in column 3, lines 42-46, Henschen et al. indicates that the contact terminals in accordance with the invention are manufactured from an extremely thin stock, for example, 0.004 inches in thickness. Thus, it is questionable whether such small contacts having such thin material stock could be used in a power distribution application similar to that anticipated by Applicants. Finally with respect to Henschen et al., Figure 6 shows the contact as having wall portion 34 positioned against inside surface 62 of the housing (and discussed in column 4, lines 14-16); however, power contacts would not be supported by the housing because the housing is not an effective conductor of heat which must be dissipated from the power contacts.

Secondly, Applicants believe that there is no teaching or suggestion in any of the references for their combination. As stated by the Federal Circuit:

It is impermissible, however, simply to engage in a hindsight reconstruction of the claimed invention, using the applicant's structure as a template in selecting elements from references to fill the gaps. *Interconnect Planning*, 774 Fed. 2d at 1143, 227 USPQ at 551. The references themselves must provide some teaching whereby the applicant's combination would have been obvious. In Re Gorman, 18 USPQ 2d 1885, 1888 (Fed. Cir. 1991).

As mentioned in Applicants' specification, and as supported by Applicant's claim terminology, Applicants' design provides power contacts which are profiled to accept larger currents and to enhance heat dissipation, whereas Henschen et al. would preclude adequate power connection and preclude heat

dissipation if used for power contacts. That is, the small mass of the Henschen et al. contact, and the fact that it is in contact with an insulative material, would detract from its heat dissipation capabilities. Therefore, the combination of Ammon and Henschen et al. together with Chau et al. and Martens cannot render Applicants invention obvious. While Chau et al. and Martens discuss having separate signal and power contacts, there is absolutely no suggestion in any of the references to combine these four references in the manner suggested by the Examiner. More particularly, there is no suggestion to provide the connector having both power contacts and signal contacts, where the power contacts are profiled according to claims 19-34. Thus, Applicants believe that there is no motivation to the combination whatsoever.

In fact, Applicants believe that the references actually teach away from their combination. Martens shows a power tab contact, together with signal contacts. Ammon shows a subminiature-D style connector assembly where all contacts are of uniform size. Chau et al. shows a printed circuit board style connector, where opposed power and signal contacts contact printed circuit board paths on opposite sides of a printed circuit board. Finally, Henschen et al. teaches making a connector profile as small as possible, with 0.004" of material stock and on 0.050" centerline spacings. Certainly, this teaching does not suggest the provision of a contact which is larger in profile than the associated signal contacts, as such would be a direct contradiction to its teaching.

Applicants have generally claimed the concept where male power contacts include resilient finger members extending from an integral body section where the finger portions of the power contact are receivable between mating power contact parts of a mating connector. This is coupled together with

the idea that both signal and power contacts exist in the same connector. Applicants submit that there is absolutely no teaching or suggestion which would lead a person of ordinary skill in the art to combine the four references including Ammon, Henschen et al., Chau et al., and Martens to provide such a structure.

Lastly, Henschen et al. issued in 1972, Ammon in 1975, Martens in 1986, and Chau et al. in 1993. Surely if the combination were obvious, others would have combined these references long before now.

Applicants have also added new claims 38-54, and have taken the Examiner's comments in mind while drafting these claims.

For all the foregoing amendments and remarks, Applicants believe that pending claims 1-34 and 38-54 are in condition for allowance, and allowance thereof is respectfully requested.

Authorization to charge the fee for excess claims is given in the attached Amendment Transmittal Letter.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

27. (Amended) Mateable electrical connectors comprising:

a first electrical connector having at least one first power contact, and at least one first signal contact; and

a second electrical connector having at least one second power contact mateable with the at least one first power contact, and at least one second signal contact mateable with the at least one first signal contact;

the at least one first power contact having a body portion with opposed contact fingers extending therefrom, thereby providing a surface area sufficiently broad to radiate heat resulting from electrical power dissipation;

the at least one second power contact having opposed contact surfaces, thereby also providing a surface area sufficiently broad to radiate heat resulting from electrical power dissipation;

wherein upon mating the first electrical connector with the second electrical connector, the contact fingers deflect inwardly upon insertion between the opposed contact surfaces, thereby exerting force against the opposed contact surfaces.